

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-21. (canceled)

22. (Currently amended) A digital contents distribution server providing digital contents to a second network, the server comprising:

a connection to a first network, said first network for holding and transmitting the digital contents to a plurality of clients in the second network, wherein said clients in the second network are grouped into client groups that are mutually connected to the second network through lines different in communication capacity; and

a central processor unit configured for dividing the digital contents into a plurality of packets; wherein the packets are defined as a minimum unit required for reconstructing the digital contents;

a storage device storing an updatable list of client destinations located in the second network, wherein said updatable list comprises client group identifiers for identifying which clients belong to which client group; and wherein the server adds and removes the client destinations from the updatable list responsive to said client destinations joining or leaving their respective client group;

the central processor unit further configured for transmitting the packets of a minimum unit for constructing the digital contents from the server through to the first network wherein copies of said packets are then transmitted, through to the second network to a selected client group;

the at least one central processor unit further configured for dynamically allocating, by use of the updatable list, the selected client group destinations to in the second network to which the packets of the minimum unit are transmitted;

a receiver configured for receiving receipt notices from the listed destinations;
the central processor unit further configured for dynamically selecting at least one client destination, from the updatable list of client destinations, serving as an intermediate node for the selected client group, by use of the receipt notices; and

the central processor unit further configured for transmitting the packets ~~of the minimum unit by use of to the destination selected as the~~ intermediate node, wherein the packets ~~of the minimum unit~~ mean the minimum packets capable of reconstructing original digital contents without the overlap of the packets;

wherein the central processor unit further transmits to the intermediate node information comprising source packet distribution data and a list of the clients within the client group to which the intermediate node belongs; and

wherein the intermediate node refers to the transmitted information for distributing copies of the packets to other clients in the selected client group for reconstructing the digital contents from the packet copies.

23. (Currently amended) The server of claim 22, wherein the central processor unit is further configured for:

registering, with the server, a time when the server transmits the packets ~~of the minimum unit~~ to a predetermined destination;

registering, with the server, a time when a client having the predetermined destination issues the receipt notice of the packets ~~of the minimum unit~~; and

calculating a time difference between the transmission time and the receipt notice issuance time.

24. (Currently amended) The server according to claim 22, wherein the central processor unit is further configured for dynamically updating the updatable list of client destinations ~~destination updatable list~~ in association with a change of a construction of the second network.

25. (Currently amended) A client for receiving digital contents distributed through a first network ~~and constructing in~~ a second network connected to the first network, the client comprising:

a receiving buffer that writes a received packet to ~~the an~~ address corresponding to ~~the a~~ packet identifier of the received packet for each time of receiving the packet and configured for:

receiving, through the first network, dynamically allocated packets of a minimum unit for constructing digital contents divided into a plurality of packets, wherein the packets of the minimum unit comprise a minimum number of packets capable of reconstructing original digital contents without an overlap of the packets;

wherein receiving the packets for reconstructing the digital contents are received by through the a dynamically selected intermediate node within a client group in the second network;

wherein the clients in the second network are grouped into client groups that are mutually connected to the second network through lines different in communication capacity; and

a central processor unit configured for ~~making distributing to other~~ clients within the client group in the second network ~~hold~~ copies of the digital contents therein by use of the packets of the minimum unit received through the first network and packets received from other clients through the second network.

26. (Previously presented) The client according to claim 25, wherein the central processor unit is further configured for preparing a receipt notice which comprises a time of receiving the packets of the minimum unit.

27. (Previously presented) The client according to claim 25, wherein the central processor unit is further configured for identifying the packets of the minimum unit from the packets received from the other clients.

28. (Previously presented) The client according to claim 25, further comprising:

an updatable list of members constructing the second network; and
wherein the central processor unit is further configured for updating the updatable list in any of cases where a client is added to and deleted from the second network.

29. (Currently amended) A digital contents distribution system for distributing digital contents, the system comprising:

a server connected to the first network and for holding therein and transmitting the digital contents;

a wide area group- comprising:

a first network and

a second network comprising a plurality of client groups connected to the first network through lines different in communication capacity; and

[[a]] the plurality of client groups constructed by including clients constructing the second network connected to the first network and for constructing the wide area group for receiving and providing the digital contents wherein one of the clients in the second network is dynamically selected as an intermediate node for receiving a packet from the server and transmitting [[a]] the received packet to other clients in the client group, and

wherein the server is configured for dividing the held digital contents into a plurality of packets and transmitting packets of a minimum unit for constructing the digital contents to the intermediate node ~~assigned clients in the group~~ by dynamically allocating the packets without overlap, and

wherein ~~having received the packets of the minimum unit through~~ the intermediate node ~~distribute~~ distributes copies of the packets of the minimum unit received from the server to all of the clients constructing [[a]] the client group to which the intermediate node belongs, including the each client and another client constructing another group, and

wherein the packets of the minimum unit mean the minimum number of packets capable of reconstructing original digital contents without the overlap of the packets.

30. (Currently amended) A server connected to a first network for distributing digital contents ~~through the first network to a wide area group including a plurality of groups connected through a second network~~, the server comprising:

an interface configured to acquire the digital contents;

a storage device for holding therein the digital contents;

wherein the storage device also stores an updatable list of client destinations located in a second network, wherein said updatable list comprises client group identifiers for identifying which clients belong to which client group; and

wherein the server adds and removes the client destinations from the updatable list responsive to said client destinations joining or leaving their respective client group;

a central processor unit configured for:

reading the digital contents from the storage device;

creating packets of a minimum unit by dividing the digital contents into a plurality of packets, wherein the packets of the minimum unit comprise the minimum number of packets capable of reconstructing original digital contents without an overlap of the packets;

selecting distribution destinations of the packets of the minimum unit in such a manner that identical packets of the minimum unit are not overlapped for a predetermined group, wherein the distribution destinations are selected from [[an]] the updatable list of destinations included in the second network; and

transmitting the packets to a first network for transmitting to an intermediate node within the predetermined group for and dynamically allocating the packets of the minimum unit for constructing the digital contents;

wherein the intermediate node distributes copies of the packets to clients of the selected destinations in the group.

31. (Previously presented) The server according to claim 30, wherein the central processor unit is configured for creating packets of a minimum unit including data for distributing a copy of the packets of the minimum unit at least to another group.

32. (Currently amended) A method for controlling a computer as a server for distributing digital contents through a first network to a wide area group including a plurality of groups, the method making the computer execute the steps of:

storing the digital contents in a storage device;

creating packets of a minimum unit by dividing the held digital contents into a plurality of packets, wherein the packets of the minimum unit comprise the minimum number of packets capable of reconstructing original digital contents without an overlap of the packets;

selecting and registering therewith distribution destinations of the packets of the minimum unit in such a manner that identical packets of the minimum unit are not overlapped for a predetermined group, wherein the distribution destinations are selected from an updatable list of destinations;

wherein said updatable list comprises client group identifiers for identifying which clients belong to which client group; and wherein the server adds and removes the client destinations from the updatable list responsive to said client destinations joining or leaving their respective client group;

storing data of the selected distribution destinations as the packets of the minimum unit; and

reading and transmitting, for constructing the digital contents, the stored packets of the minimum unit to an intermediate node within the selected distribution destination for distributing copies of the packets to other clients of the selected distribution destinations in the group while dynamically allocating the read-out packets;

wherein the group is connected to the server through a second network connected to the first network through lines different in communication capacity.

33. (Canceled)

34. (Currently amended) A computer readable recording medium recording therein a program for

controlling a computer as a server for holding therein and distributing digital contents through a first network to a wide area group including a plurality of groups connected through a second network,

wherein the program when executed causes the computer execute the steps of:
creating packets of a minimum unit by dividing the held digital contents into a plurality of packets;

selecting and registering therewith distribution destinations of the packets of the minimum unit in such a manner that identical packets of the minimum unit are not overlapped for a predetermined group, wherein the distribution destinations are selected from an updatable list of destinations and represents clients within client groups;

storing data of the selected distribution destinations as the packets of the minimum unit; and

reading and transmitting, for constructing the digital contents, the stored packets of the minimum unit to an intermediate node for distributing copies of the packets to the other clients of the selected distribution destinations in the group while dynamically allocating the read-out packets;

wherein the group is connected to the server through a second network connected to the first network through lines different in communication capacity.

35- 41. (Canceled)